

**WIRELESS ELECTROSTATIC CHARGING AND COMMUNICATING
SYSTEM**

5 **CROSS REFERENCE TO RELATED APPLICATIONS**

This is a continuation in part of a prior United States patent application Serial No. 09/061,146, filed 16 April 1998 by inventors Ted Geiszler et al, Attorney Docket No. IND00701P01, entitled "REMOTELY POWERED ELECTRONIC TAG WITH PLURAL ELECTROSTATIC 10 ANTENNAS AND ASSOCIATED EXCITER/READER AND RELATED METHOD; RADIO FREQUENCY IDENTIFICATION TAG SYSTEM USING TAGS ARRANGED FOR COUPLING TO GROUND; RADIO FREQUENCY IDENTIFICATION TAG ARRANGED FOR MAGNETICALLY STORING TAG STATE INFORMATION; AND RADIO 15 FREQUENCY IDENTIFICATION TAG WITH A PROGRAMMABLE CIRCUIT STATE" and assigned to Motorola, Inc. the disclosure of which prior application is hereby incorporated by reference, verbatim and with the same effect as though it were fully and completely set forth herein.

Additionally, this application is related to United States provisional 20 patent application Serial No. (60/099927), filed 11 September 1998 by Victor Vega and John Rolin, Attorney Docket No. IND10203, entitled "ELECTROSTATIC RFID/EAS SYSTEM" which is to be commonly assigned to Motorola, Inc. the disclosure of which is hereby incorporated by reference, verbatim and with the same effect as though it were fully and completely set forth herein, now abandoned.

Additionally, this application is related to United States provisional patent application Serial No. (60/100016), filed 11 September 1998 by Victor Vega, Attorney Docket No. IND10173, entitled "CONTACTLESS ELECTROSTATIC RADIO FREQUENCY IDENTIFICATION 30 PROGRAMMABILITY" which is to be commonly assigned to Motorola, Inc. the disclosure of which is hereby incorporated by reference, verbatim and with the same effect as though it were fully and completely set forth herein, now abandoned.

Additionally, this application is related to United States provisional 35 patent application Serial No. (60/100003), filed 11 September 1998 by

Victor Vega, Attorney Docket No. IND10184, entitled "BODY TOUCH
RFID SYSTEM" which is to be commonly assigned to Motorola, Inc. the
disclosure of which is hereby incorporated by reference, verbatim and with
the same effect as though it were fully and completely set forth herein,
5 now abandoned.

Additionally, this application is related to United States patent
application Serial No. (09/226065), filed on an even date herewith by
Victor Vega, Attorney Docket No. IND10201, entitled "ACTIVE
ELECTROSTATIC TRANSCEIVER AND COMMUNICATING SYSTEM"
10 which is to be commonly assigned to Motorola, Inc. the disclosure of which
is hereby incorporated by reference, verbatim and with the same effect as
though it were fully and completely set forth herein, now US Patent No.
6,282,407.

Additionally, this application is related to United States provisional
15 patent application Serial No. (60/099985), filed 11 September 1998 by
Victor Vega, Attorney Docket No. IND10187, entitled "PIEZOELECTRIC
CRYSTAL USED FOR DETECTION OF RFID/EAS TAGS" which is to be
commonly assigned to Motorola, Inc. the disclosure of which is hereby
incorporated by reference, verbatim and with the same effect as though it
20 were fully and completely set forth herein, converted to non-provisional
application Serial No. (09/391725), now US Patent No. 6,362,738.

Additionally, this application is related to United States provisional
patent application Serial No. (60/099928), filed 11 September 1998 by
Victor Vega, John Hattick and Charles Zimnicki, Attorney Docket No.
25 IND10188, entitled "GENERATION OF ELECTROSTATIC VOLTAGE
POTENTIALS FOR RFID/EAS USING PIEZOELECTRIC CRYSTALS"
which is to be commonly assigned to Motorola, Inc. the disclosure of which
is hereby incorporated by reference, verbatim and with the same effect as
though it were fully and completely set forth herein, now abandoned.

30 Additionally, this application is related to United States patent
application No. 09/151,418, filed 11 September 1998 by Victor Vega,
Attorney Docket No. IND10185, entitled "A CONTACTLESS CAPACITIVE
DATA TRANSMISSION SYSTEM AND METHOD" which is to be
commonly assigned to Motorola, Inc. the disclosure of which is hereby

incorporated by reference, verbatim and with the same effect as though it were fully and completely set forth herein, now abandoned.

FIELD OF THE INVENTION

5 This invention relates to contactless battery charging systems and wireless communication systems. Particularly the present invention relates to systems for charging and communicating with rechargeable RFID transceivers and smart cards.

10 BACKGROUND OF THE INVENTION

Battery charging systems are not new. They are used to recharge batteries in many products used today including an automobile, a cordless telephone or cell phone, flashlights, calculators, portable computers, portable stereos, and may be used to directly recharge batteries themselves. Most of these charging systems require some sort of wire connection or physical contact with electrodes in order to recharge a battery.

Inductive or electromagnetic charging systems were introduced in order to charge systems without requiring a physical electrical connection. 20 These were introduced for example in charging a battery in an electric tooth brush or batteries in electric automobiles. These electromagnetic charging systems eliminated the use of physical contacts or electrodes. This avoided the wear on physical contacts or electrodes normally associated with the numerous times a device would be recharged. 25 Additionally the systems were more user friendly in that the devices were easier to recharge. The charging system for an automobile or tooth brush is an inductive or electromagnetic charging system having coils to transmit an electromagnetic field from the battery charger and receive the electromagnetic field in order to generate current within the device being charged. 30 Coils for transmitting and receiving a charge tend to be large and cumbersome making it very difficult to integrate the charging components into a very small area. Previously space was not a large problem because previous battery charged devices, such as the tooth brush and automobile, have sufficient space for the relatively large 35 charging components. Additionally, prior battery charged devices have

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Additionally, this application is related to United States provisional patent application Serial No. (60/099927), filed 11 September 1998 by Victor Vega and John Rolin, Attorney Docket No. IND10203, entitled "ELECTROSTATIC RFID/EAS SYSTEM" which is to be commonly assigned to Motorola, Inc. the disclosure of which is hereby incorporated by reference, verbatim and with the same effect as though it were fully and completely set forth herein, now abandoned.

Additionally, this application is related to United States provisional patent application Serial No. (60/100016), filed 11 September 1998 by Victor Vega, Attorney Docket No. IND10173, entitled "CONTACTLESS ELECTROSTATIC RADIO FREQUENCY IDENTIFICATION PROGRAMMABILITY" which is to be commonly assigned to Motorola, Inc. the disclosure of which is hereby incorporated by reference, verbatim and with the same effect as though it were fully and completely set forth herein, now abandoned.

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Victor Vega, Attorney Docket No. IND10201, entitled "ACTIVE
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